CALIFORNIA ENERGY COMMISSION
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August 5, 2005

Commanding Officer
United States Coast Guard Sector Los Angeles-Long Beach
1001 S. Seaside Avenue
San Pedro, CA 90731

RE: Coast Guard Docket No. COTP LA-LB 05-005

Dear Sir:

The California Energy Commission (Energy Commission), as an "expert agency" under the California Environmental Quality Act (CEQA), is pleased to submit comments on the Sound Energy Solutions (SES) liquefied natural gas (LNG) project proposed for the Port of Long Beach.

The Energy Commission staff has identified potential impacts to critical petroleum infrastructure marine terminals that could occur due to security zone operational limitations and catastrophic release associated with the LNG facility proposed for Pier T126 in the Port of Long Beach. Although the scope of our comments is narrowly focused on issues associated with petroleum infrastructure, the Energy Commission recognizes that other stakeholders may raise concerns associated with public health, safety, and economic impacts. The absence of a discussion of these other areas of concern in this letter does not diminish the importance of those topics.

The combined Ports of Los Angeles and Long Beach contain several marine terminals that provide critical petroleum infrastructure services for California. There are 14 refineries in California that produce gasoline and diesel fuels for the California, Nevada, and Arizona markets. As California production of crude oil continues to decline, refiners have to import increasing quantities of crude oil to continue operating their facilities at optimal levels. California refineries processed nearly 655 million barrels of crude oil during 2004, over 58 percent of this quantity was imported from Alaska and foreign sources[1]. Approximately 60 percent of all of the crude oil imported that year was handled by marine terminals located in the Los Angeles Basin[2].

[1] California Energy Commission web site, http://www.energy.ca.gov/oil/statistics/crude_oil_receipts.html

[2] This figure includes the quantity of crude oil imported through Chevron's mooring buoy petroleum terminal, located off-shore from the city of El Segundo. The remaining imports of crude oil to Southern California are received at marine terminals located in the San Pedro Harbor.

Additionally, as demand for transportation fuels exceeds the in-state refining capacity, refiners must import increasing quantities of gasoline and other refined petroleum products. Nearly 80 percent of the refined petroleum products imported to California are received at marine terminals located in the Los Angles Basin.

The Energy Commission requests that the United States Coast Guard consider carefully these issues and the potential impacts to the state's economy that could result from a disruption to the importation of petroleum and refined transportation fuels in preparing the Letter of Recommendation to the Federal Energy Regulatory Commission (FERC).

The Energy Commission has identified the following three areas of concern:

1. Potential impact on petroleum infrastructure in the San Pedro Harbor as a result of a catastrophic incident.

2. Loss of operational transit time in the San Pedro Harbor due to the security zones that will be associated with movement and berthing of liquefied hazardous gas (LHG) tank vessels.

3. Elevated threat levels invoked by the Department of Homeland Security and the potential diminishment of movement by marine vessels in the San Pedro Harbor.

Potential Impacts on Petroleum Infrastructure – Catastrophic Incident

The Sandia National Laboratories Report[3] provided an assessment of the potential impacts from an accidental or intentional release of LNG from an LHG tank vessel. One purpose of this study was to determine the potential consequences of an LNG release within pre-determined geographic zones. The Energy Commission staff analyzed the potential impacts to all petroleum infrastructure marine berths in the San Pedro Harbor that are within Zone 3[4] of a hypothetical catastrophic release. For purposes of this analysis, the Energy Commission staff assumed that the LHG tank vessel would be moored at Pier T126 and the "point of release" would be the perimeter of the LHG tank vessel (approximately 150 wide and 1,000 feet in length).

There are several operational petroleum infrastructure marine terminals within this hypothetical Zone 3 geographic area (enclosed as Exhibit 1). Based on information obtained from the California State Lands Commission (SLC) and other sources[5], Energy

[3] Sandia National Laboratories, December 2004, *Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water*, Sandia National Laboratories Publication No. SAND2004-6258.

[4]. Sandia National Laboratories, December 2004, *Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water*, pp 52-53, Sandia National Laboratories Publication No. SAND2004-6258

[5] The State Lands Commission collects a variety of information from operators of all marine oil terminals. The statistics provided to staff at the Energy Commission included quantity of crude oil and refined petroleum products that were loaded or discharged at individual petroleum infrastructure marine terminals throughout the state during 2004. Energy Commission staff compared this information to proprietary data obtained from Port Import Export Reporting Service (PIERS). Based on these comparisons and the

Commission staff analyzed the quantity of crude oil and refined products that were processed through the petroleum infrastructure marine terminals located within the hypothetical Zone 3 during 2004 and concluded the following:

- 100 percent of the crude oil marine terminals in the San Pedro Harbor are within Zone 3.

- 45 percent of the total volume of gasoline and blending components transferred through the marine terminals in the San Pedro Harbor are within Zone 3.

- 44 percent of the total volume of diesel and jet fuel transferred through the marine terminals in the San Pedro Harbor are within Zone 3.

- 81 percent of the total volume of fuel oil and bunker fuel transferred through the marine terminals in the San Pedro Harbor are within Zone 3.

- The entire Valero Wilmington refinery is within Zone 3.

If the facilities located in Zone 3 were unavailable for several days to a week, wholesale prices in Southern California would increase rapidly. Petroleum infrastructure marine terminals located outside of Zone 3 would not be available to receive additional imports of refined petroleum products due to lack of sufficient spare capacity. In addition, the other petroleum infrastructure marine terminals located outside Zone 3 would not be able to import additional supplies of crude oil because they lack the sufficient storage tank capacity, configuration, and are not connected by pipeline to the Southern California refineries.

There is no precedent for such a large temporary loss of crude oil and refined petroleum product supply on a temporary basis. By comparison, significant refinery outages of less than 10 percent of statewide capacity have resulted in wholesale price spikes of approximately 50 cents per gallon for gasoline for periods of time in excess of four weeks. The wholesale price spike associated with a temporary loss of the petroleum infrastructure marine terminals in hypothetical Zone 3 would be much greater. Not only would there be a decreased ability to import refined petroleum products, but the marine terminals that are used to import crude oil would also be temporarily out of service. Local refineries would reduce output as crude oil inventories decline or completely shut down if the marine terminals remained closed for an extended period of time.

Beyond the limited scope of the Sandia and Energy Commission staff assessments, it is important to note that a catastrophic event at any of the petroleum infrastructure marine terminals located within Zone 3 could have similar impacts.

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inclusion of other confidential information examined by the Energy Commission, a combined data base was developed. The information contained in this combined data base was used to determine the quantity of crude oil and refined products that were loaded or discharged at each of the petroleum infrastructure marine terminals in the San Pedro Harbor.

Security Zones – Potential Impact on Petroleum Infrastructure Operations
The USCG has promulgated security zone regulations[6] for movement of LHG tank vessels in the Regulated Navigation Area[7] of San Pedro Harbor. Current regulations specify that entry into or remaining in these security zones is prohibited within specified geographic areas while LHG tank vessels are moored or in transit within the Regulated Navigation Area of the San Pedro Harbor. While LHG tank vessels are transiting to or from Pier T126, the security zone extends 1,000 yards ahead and 500 yards on each side and astern of the vessel. While the LHG tank vessel is moored or in the process of mooring, the security zone extends in a 500-yard radius around the vessel on the shore and all waters.

The Energy Commission notes that the expected frequency of LHG tank vessels and the scope of the security zones will decrease the operational availability of the San Pedro Harbor waters for other marine vessels, namely petroleum tank vessels. SES representatives have estimated that the proposed LNG terminal at Pier T126 in the Port of Long Beach will receive an average of 120 LHG tank vessels per year. SES representatives have also indicated that the transit time between Queens Gate (Long Beach Harbor entrance) and Pier T126 for the LHG tank vessels is approximately 50 minutes, each way. Further, these same representatives estimated that the LHG tank vessels would require 14 hours to discharge their cargo of LNG[8].

While the LHG tank vessel is moored at Pier T126, the 500-yard radius security zone should not prevent the movement of other petroleum tank vessels to and from their respective known berth locations within the Regulated Navigation Area of the San Pedro Harbor. The nearest petroleum infrastructure marine berth is located at Berth 121 in the Port of Long Beach, operated by British Petroleum. This marine terminal lies outside the 500-yard radius security zone. Even though portions of the shore-side facilities at Berth 121 are within the 500-yard radius security zone, it is assumed that the USCG (Captain of the Port of Los Angeles-Long Beach) will permit continuous shore-side operations of the British Petroleum facility for all authorized personnel. The Energy Commission requests that the USCG confirm this assumption.

With regard to the potential affects of the LHG tank vessel transit security zones, Energy Commission staff have calculated that the time available for marine vessels to operate in the ship channel between the Long Beach Harbor entrance and the vicinity of Pier T126 will be diminished by a minimum of 12,000 minutes or 200 hours per year. Although this quantity represents only 2.3 percent of the time available during a year, the marine vessel activity in the San Pedro Harbor is forecast to continue growing absent the presence of an LNG terminal.

A recent study completed for the Ports of Los Angeles and Long Beach forecast that the visits of containerships would grow at an average rate of seven percent per year

[6] Code of Federal Regulations, July 1, 2004 Edition, Volume 33, Chapter 1, Section 165.1151, page 755.
[7].Code of Federal Regulations, July 1, 2004 Edition, Volume 33, Chapter 1, Section 165.1152, page 756.
[8] Comments provided by Thomas Giles, Chief Operating Officer of Sound Energy Solutions, during the United States Coast Guard public meeting held in Long Beach, California on July 11, 2005.

between 2004 and 2020[9]. In addition, the Energy Commission staff conducted analysis that concluded crude oil imports into the Los Angeles Basin will increase between 84 and 135 million barrels over the next 20 years[10]. The increased quantity of crude oil imports into the Los Angeles Basin represents an average annual rate increase of between 1.5 and 2.2 percent. Imports of refined petroleum products into the Los Angeles Basin are expected to increase between 2.4 and 4.6 billion gallons (57 to 110 million barrels) over the same period of time[11]. The increased quantity of refined petroleum products into the Los Angeles Basin represents an average annual rate increase of between 5.9 and 8.3 percent. Assuming the average size of the marine tankers used to transport the crude oil and refined petroleum products remain similar to today, these average rates of increased imports can be considered as a surrogate for increased visits of marine petroleum tankers to San Pedro Harbor over the next 20 years.

Decreased availability of operational time within the San Pedro Harbor will increase marine vessel congestion, potentially increasing costs and delaying scheduled deliveries of crude oil and refined petroleum products. However, the SES project will not disproportionately add to the congestion problem in the Harbor.

The Energy Commission recognizes that the current security zone regulations for liquefied natural gas carrier vessels underway in the Captain of the Port Boston zone (Massachusetts) require greater distances ahead (two miles) and greater distances astern (one mile)[12]. If security zones for LHG tank vessels transiting the San Pedro Harbor are expanded to conform to those of the Captain of the Port Boston zone, availability of operational time could be reduced. The Energy Commission requests that the USCG address the potential impacts on petroleum infrastructure operations in the San Pedro Harbor if the current security zones for LHG tank vessels underway in the Regulated Navigation Area of the San Pedro Harbor are expanded to conform to the Captain of the Port Boston zone.

Elevated Threat Levels – Potential Diminishment of Marine Vessel Operations
The Department of Homeland Security (DHS) periodically changes the threat alert status for the United States or specific geographic areas of the country. The Energy Commission would like the USCG to provide comments concerning any changes in geographic scope of security zones for LHG tank vessel operations for other land-based LNG terminal operations in the United States over the last three years. Specifically, have any existing security zones been enlarged as a direct result of elevated threat levels posted by the DHS? Further, have there been any other operational restrictions

[9] Mercator Transport Group, *Forecast of Container Vessel Specifications and Port Calls Within San Pedro Bay*, February 22, 2005, Final Report, page 3.
[10] California Energy Commission, April 2005, *An Assessment of California's Petroleum Infrastructure Needs*, Staff Report, pp 14-15, Table 3, page 31, California Energy Commission, publication CEC-600-2005-009.
[11] California Energy Commission, April 2005, *An Assessment of California's Petroleum Infrastructure Needs*, Staff Report, pp 15-18, Table 3, page 31, California Energy Commission, publication CEC-600-2005-009.
[12] Code of Federal Regulations, July 1, 2004 Edition, Volume 33, Chapter 1, Section 165.110, page 648.

for marine vessels, including petroleum tank vessels, over this same period of time during periods of elevated threat levels? If so, could the USCG explain in the Letter of Recommendation how elevated threat levels posted by the DHS could further reduce or restrict availability of operational time within the San Pedro Harbor?

Closing Remarks

The potential impacts for petroleum infrastructure operations in the San Pedro Harbor described in this comment letter are specific to the SES LNG terminal project that has been proposed for Pier T126 in the Port of Long Beach. The Energy Commission requests that when the FERC and Port of Long Beach compare the SES LNG terminal project to off-shore alternatives, they take into account the different potential impacts on petroleum infrastructure.

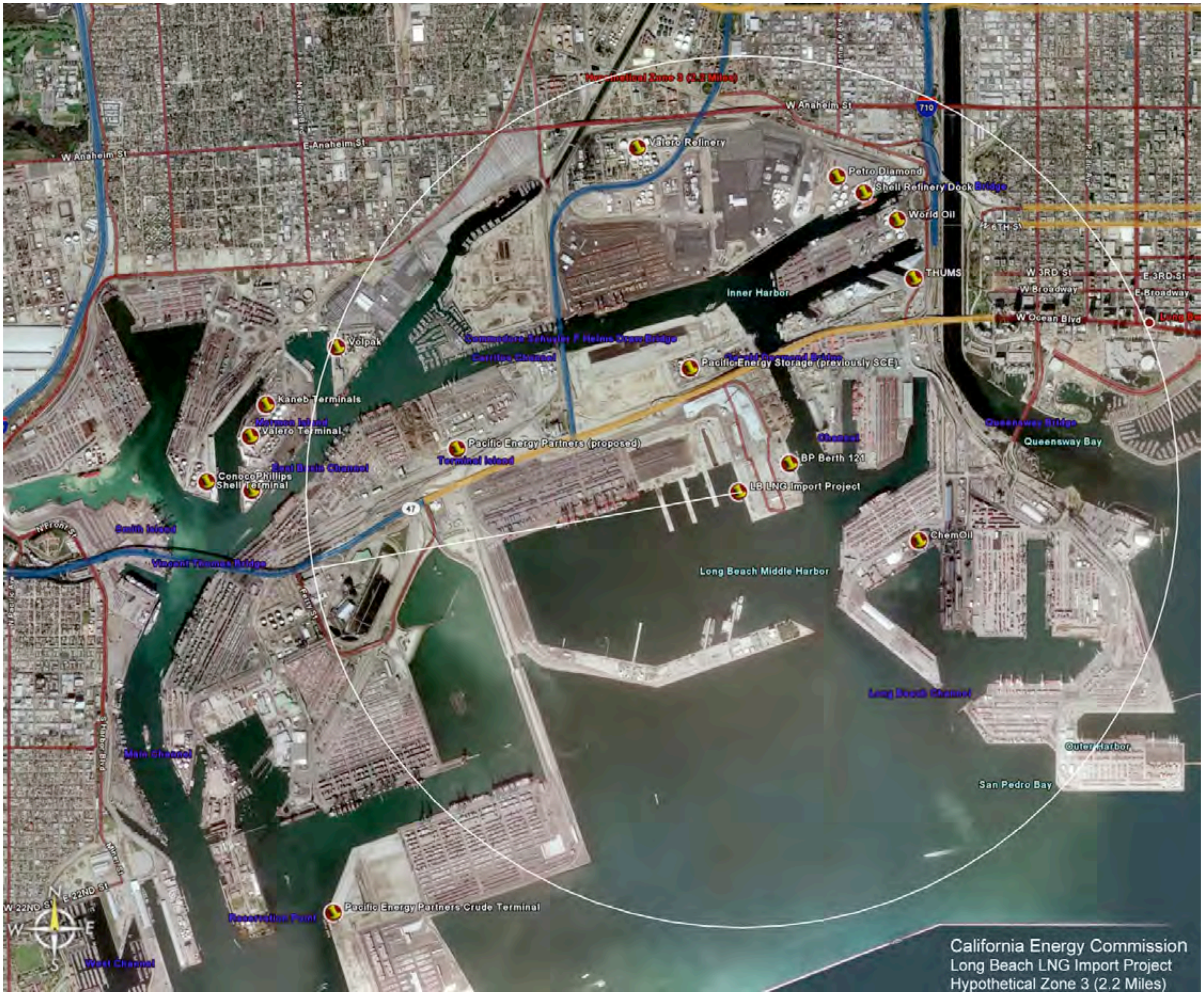
If there are any general questions concerning the information contained in this comment letter, please contact Pat Perez, Office Manager of the Transportation Fuels office at (916) 654-4527. Regarding technical questions, please contact Gordon Schremp, Senior Staff of the Transportation Fuels Office at (916) 764-0458.

Sincerely,

B. B. BLEVINS
Executive Director

Enclosure (Exhibit 1)

Exhibit 1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Petro Diamond
Shell Refinery Dock Bridge
World Oil
THUMS
Inner Harbor
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W Ocean Blvd
Volpak
Cerritos Channel
Pacific Energy Storage (previously SCE)
Kaneb Terminals
Valero Terminal
Pacific Energy Partners (proposed)
Terminal Island
BP Berth 121
LB LNG Import Project
ConocoPhillips
Shell Terminal
Smith Island
Vincent Thomas Bridge
ChemOil
Long Beach Middle Harbor
Queensway Bridge
Queensway Bay
Long Beach Channel
Outer Harbor
San Pedro Bay
Main Channel
Pacific Energy Partners Crude Terminal
West Channel
California Energy Commission
Long Beach LNG Import Project
Hypothetical Zone 3 (2.2 Miles)